to the Top of the Obelisc a gilded Ball, whose Use was to make the Shadow of the Extremity the more observable, as the middle Part of the Shadow of that Globe could readily be estimated; whereas the Shadow of an *Apex* would, at so great a Distance, be intirely imperceptible.

VI. *A Letter from the Rev. Mr.* Mason, Woodwardian *Professor at* Cambridge, *and F. R. S. to the* Pr. R. S. *concerning* Spelter, *Melting* Iron *with Pit-coal, and a* burning Well *at* Brosely.

SIR,

Read Jan. 22. 1746-7. HAving met with several Things, in a Ramble last Summer, that were new to me, and imagining they might be so to you likewise, and being of some Consequence, I presume to trouble you with a short Account of some of them.

What *Spelter* is I don't well know, nor what Uses are already made of it; but I believe it was never yet applied to so large a Work as the Cylinder of a Fire-Engine, till Mr. *Ford*, of *Colebrook-Dale* in *Shropshire*, did it with Success: It run easier, and cast as true as Brass, and bored full as well, or better, when it had been warmed a little; While cold, it is as brittle as Glass, but the Warmth of my Hand soon made it so pliant, that I could wrap a Shaving of it round my Finger like a Bit of Paper. This Metal

tal never ruſts, and therefore works better than Iron; the Ruſt of which, upon the leaſt Intermiſſion of working, reſiſts the Motion of the *Piſton*.

Several Attempts have been made to run *Iron Ore* with Pit-coal; I imagine it hath not ſucceeded anywhere, becauſe we have had no Account of its being practiſed; but I find that Mr. *Ford*, from Iron Ore and Coal, both got in the ſame Dale, makes Iron brittle or tough, as he pleaſes; there being Cannon thus caſt ſo ſoft as to bear Turning like wrought Iron.

At *Broſeley*, about a Mile from the fore-mention'd Place, in the Year 1711, was a Well found, which burned with great Violence, whereof ſome Account is given in *Philoſ. Tranſact.* N°. 334; but it has been many Years loſt. The poor Man, in whoſe Land it was, miſſing the Profit he uſed to have by ſhewing it, applied his utmoſt Endeavours to recover it; but all in vain, till *May* laſt; when, attending to a rumbling Noiſe under the Ground, like what the former Well made, tho' in a lower Situation, and about 30 Yards nearer to the River, he happen'd to hit upon it again.

That you may have ſome Notion of what it is, I will lay before you ſuch an Account of it, as the curſory View I had will permit.

The Well for 4 or 5 Feet deep is 6 or 7 Feet wide; within that is another leſs Hole, of like Depth, dug in the Clay; in the Bottom whereof is placed a cylindric earthen Veſſel, of about 4 or 5 Inches Diameter at the Mouth, having the Bottom taken off, and the Sides well-fix'd in the Clay ramm'd cloſe about it.

it. Within the Pot is a brown Water, thick as Puddle, continually forced up with a violent Motion, beyond that of boiling Water, and a rumbling hollow Noiſe, riſing and falling by Fits 5 or 6 Inches; but there was no Appearance of any Vapour riſing; which perhaps might have been viſible, had not the Sun ſhone ſo bright.

Upon putting down a Candle at the End of a Stick, at about a Quarter of a Yard Diſtance, it took Fire, darting and flaſhing in a violent Manner, for about half a Yard high, much in the manner of Spirits in a Lamp, but with a greater Agitation. The Man ſaid, that a Tea kettle had been made to boil in 9 Minutes Time; and that he had left it burning 48 Hours together, without any ſenſible Diminution.

It was extinguiſhed by putting a wet Mop upon it, which muſt be kept there a ſmall time; otherwiſe it would not go out. Upon the Removal of the Mop, there ſucceeded a ſulphureous Smoke, laſting about a Minute; and yet the Water was very cold to the Touch.

The Well lies about 30 Yards from the *Severn*; which, in that Place, and for ſome Miles above and below, runs in a Vale full 100 Yards perpendicular below the Level of the Country on either Side, which inclines down to the Country at an Angle of 20 or 30 Degrees from the Horizon; but ſomewhat more or leſs in different Places, according as the Place is more or leſs rocky.

The Country conſiſts of Rock, Stone, Earth, and Clay, unequally mix'd; and as the River, which is very rapid, waſhes away the ſoft and looſe Parts, the next ſucceſſively ſlip into the Chanel; ſo as, by degrees,

degrees, and in time, to affect the whole Slope of the Land: And as the inferior *Strata* yield Coal and Iron-Ore, their Fermentation may produce this Vapour, and force it to aſcend with Violence through the Chinks of the Earth, and give the Water the great Motion it has. This might be obſtructed in one Place by the forementionʼd ſubſiding of the ſloping Bank, and might afterwards find a Vent in another; in like manner as it happenʼd at *Scarborough Spaw*, a few Years ſince.

If theſe Hints ſhould be any Amuſement to you, or be the Means of ſetting any more able Perſon upon further Inquiries, and giving a better Account of them, I have all that is intended by

Jan. 18. 1746. *Your humble Servant,*

Cha. Maſon.

VII. *Part of a Letter from Mr.* John Browning, *of* Briſtol, *to Mr.* Henry Baker, *F.R.S. dated* Dec. 11. 1746. *concerning the Effect of* Electricity *on* Vegetables.

Read Jan. 22. 1746-7. HAving an Operator at *Briſtol* with a good electrifying Machine, I was deſirous to electriſe a Tree, and therefore ſent him the following for that Purpoſe; *viz. Lauruſtinus*, *Leucoium majus flore pleno ferrugineo*, and *Stœchas citrina Cretica*. Theſe were not choſen with any Deſign;